SEQUENCE LISTING

<110> KEITH, TIM
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ALLEN, KRISTINA
PANDIT, SUNIL

<120> ANTIBODIES AND COMPOSITIONS TO A RESPIRATORY DISEASE AND OBESITY RELATED PROTEIN

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<141> 2003-09-24

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atg ggg ctg gtg gcc ctg gag gct gaa ggc cag gag ctc ctg ctt gag   240
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ctg gag aag aac cac agg ctg ctg gcc cca gga tac ata gaa acc cac   288
Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His
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gtc ctc tgc acc tgc tct ggg atg agt ggc ctg atc acc ctc agc agg   432
Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg
    130                 135                 140

aat gcc agc tat tat ctg cgt ccc tgg cca ccc cgg ggc tcc aag gac   480
Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp
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ttc tca acc cac gag atc ttt cgg atg gag cag ctg ctc acc tgg aaa   528
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gga acc tgt ggc cac agg gat cct ggg aac aaa gcg ggc atg acc agc   576
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atc ggc gcc gca gcc acc atg gcc cat gag atc ggc cac agc ctc ggc   1056
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cta cta ctg ctg ctg ctc tgg cca gtg cca ggc gcc ggg gtg ctt caa   96
Leu Leu Leu Leu Leu Leu Trp Pro Val Pro Gly Ala Gly Val Leu Gln
            20                  25                  30
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Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp Gly
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caa ccc tgg cgc acc gtc agc ctg gag gag ccg gtc tcg aag cca gac   192
Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro Asp
      50                  55                  60

atg ggg ctg gtg gcc ctg gag gct gaa ggc cag gag ctc ctg ctt gag   240
Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu
 65                  70                  75                  80

ctg gag aag aac cac agg ctg ctg gcc cca gga tac ata gaa acc cac   288
Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His
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tac ggc cca gat ggg cag cca gtg gtg ctg gcc ccc aac cac acg gat   336
Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr Asp
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cat tgc cac tac caa ggg cga gta agg ggc ttc ccc gac tcc tgg gta   384
His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp Val
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gtc ctc tgc acc tgc tct ggg atg agt ggc ctg atc acc ctc agc agg   432
Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg
    130                 135                 140

aat gcc agc tat tat ctg cgt ccc tgg cca ccc cgg ggc tcc aag gac   480
Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp
145                 150                 155                 160

ttc tca acc cac gag atc ttt cgg atg gag cag ctg ctc acc tgg aaa   528
Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp Lys
                165                 170                 175

gga acc tgt ggc cac agg gat cct ggg aac aaa gcg ggc atg acc agc   576
Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr Ser
            180                 185                 190

ctt cct ggt ggt ccc cag agc agg ggc agg cga gaa gcg cgc agg acc   624
Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr
        195                 200                 205

cgg aag tac ctg gaa ctg tac att gtg gca gac cac acc ctg ttc ttg   672
Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe Leu
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ctg acc ggc ctg gag gtg tgg acc gag cgg gac cgc agc cgc gtc acg   816
Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val Thr
            260                 265                 270

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305                 310                 315                 320

cgc gcc gag agc tcg gga ggc gtg agc acg gac cac tcg gag ctc ccc   1008
Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu Pro
                325                 330                 335

atc ggc gcc gca gcc acc atg gcc cat gag atc ggc cac agc ctc ggc   1056
Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu Gly
            340                 345                 350

ctc agc cac gac ccc gac ggc tgc tgc gtg gag gct gcg gcc gag tcc   1104
Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu Ser
        355                 360                 365

gga ggc tgc gtc atg gct gcg gcc acc ggg cac ccg ttt ccg cgc gtg   1152
Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg Val
    370                 375                 380

ttc agc gcc tgc agc cgc cgc cag ctg cgc gcc ttc ttc cgc aag ggg   1200
Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly
385                 390                 395                 400

ggc ggc gct tgc ctc tcc aat gcc ccg gac ccc gga ctc ccg gtg ccg   1248
Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val Pro
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Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys Asp
            420                 425                 430

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tgc tcg ctg cgc ccg ggg gcc cag tgc gcc cac ggg gac tgc tgc gtg   1392
Cys Ser Leu Arg Pro Gly Ala Gln Cys Ala His Gly Asp Cys Cys Val
    450                 455                 460

cgc tgc ctg ctg aag ccg gct gga gcg ctg tgc cgc cag gcc atg ggt   1440
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Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly
            500                 505                 510

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Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln
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cca ggc ttt ggt ggc agc atg gac agt ggc cct gtg cag gct gaa aac   2016
Pro Gly Phe Gly Gly Ser Met Asp Ser Gly Pro Val Gln Ala Glu Asn
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cat gac acc ttc ctg ctg gcc atg ctc ctc agc gtc ctg ctg cct ctg   2064
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gac atg ggg ctg gtg gcc ctg gag gct gaa ggc cag gag ctc ctg ctt   288
Asp Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu
                85                  90                  95

gag ctg gag aag aac cac agg ctg ctg gcc cca gga tac ata gaa acc   336
Glu Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr
            100                 105                 110

cac tac ggc cca gat ggg cag cca gtg gtg ctg gcc ccc aac cac acg   384
His Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr
        115                 120                 125

gat cat tgc cac tac caa ggg cga gta agg ggc ttc ccc gac tcc tgg   432
Asp His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp
    130                 135                 140

gta gtc ctc tgc acc tgc tct ggg atg agt ggc ctg atc acc ctc agc   480
Val Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser
145                 150                 155                 160

agg aat gcc agc tat tat ctg cgt ccc tgg cca ccc cgg ggc tcc aag   528
Arg Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys
```

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                165                 170                 175

gac ttc tca acc cac gag atc ttt cgg atg gag cag ctg ctc acc tgg   576
Asp Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp
            180                 185                 190

aaa gga acc tgt ggc cac agg gat cct ggg aac aaa gcg ggc atg acc   624
Lys Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr
        195                 200                 205

agc ctt cct ggt ggt ccc cag agc agg ggc agg cga gaa gcg cgc agg   672
Ser Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg
    210                 215                 220

acc cgg aag tac ctg gaa ctg tac att gtg gca gac cac acc ctg ttc   720
Thr Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe
225                 230                 235                 240

ttg act cgg cac cga aac ttg aac cac acc aaa cag cgt ctc ctg gaa   768
Leu Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu
                245                 250                 255

gtc gcc aac tac gtg gac cag ctt ctc agg act ctg gac att cag gtg   816
Val Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val
            260                 265                 270

gcg ctg acc ggc ctg gag gtg tgg acc gag cgg gac cgc agc cgc gtc   864
Ala Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val
        275                 280                 285

acg cag gac gcc aac gcc acg ctc tgg gcc ttc ctg cag tgg cgc cgg   912
Thr Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg
    290                 295                 300

ggg ctg tgg gcg cag cgg ccc cac gac tcc gcg cag ctg ctc acg ggc   960
Gly Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly
305                 310                 315                 320

cgc gcc ttc cag ggc gcc aca gtg ggc ctg gcg ccc gtc gag ggc atg  1008
Arg Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met
                325                 330                 335

tgc cgc gcc gag agc tcg gga ggc gtg agc acg gac cac tcg gag ctc  1056
Cys Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu
            340                 345                 350

ccc atc ggc gcc gca gcc acc atg gcc cat gag atc ggc cac agc ctc  1104
Pro Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu
        355                 360                 365

ggc ctc agc cac gac ccc gac ggc tgc tgc gtg gag gct gcg gcc gag  1152
Gly Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu
    370                 375                 380

tcc gga ggc tgc gtc atg gct gcg gcc acc ggg cac ccg ttt ccg cgc  1200
Ser Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg
385                 390                 395                 400

gtg ttc agc gcc tgc agc cgc cgc cag ctg cgc gcc ttc ttc cgc aag  1248
Val Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys
                405                 410                 415

ggg ggc ggc gct tgc ctc tcc aat gcc ccg gac ccc gga ctc ccg gtg  1296
Gly Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val
            420                 425                 430
```

```
ccg ccg gcg ctc tgc ggg aac ggc ttc gtg gaa gcg ggc gag gag tgt   1344
Pro Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys
        435                 440                 445

gac tgc ggc cct ggc cag gag tgc cgc gac ctc tgc tgc ttt gct cac   1392
Asp Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His
    450                 455                 460

aac tgc tcg ctg cgc ccg ggg gcc cag tgc gcc cac ggg gac tgc tgc   1440
Asn Cys Ser Leu Arg Pro Gly Ala Gln Cys Ala His Gly Asp Cys Cys
465                 470                 475                 480

gtg cgc tgc ctg ctg aag ccg gct gga gcg ctg tgc cgc cag gcc atg   1488
Val Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met
                485                 490                 495

ggt gac tgt gac ctc cct gag ttt tgc acg ggc acc tcc tcc cac tgt   1536
Gly Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys
            500                 505                 510

ccc cca gac gtt tac cta ctg gac ggc tca ccc tgt gcc agg ggc agt   1584
Pro Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser
        515                 520                 525

ggc tac tgc tgg gat ggc gca tgt ccc acg ctg gag cag cag tgc cag   1632
Gly Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln
    530                 535                 540

cag ctc tgg ggg cct ggc tcc cac cca gct ccc gag gcc tgt ttc cag   1680
Gln Leu Trp Gly Pro Gly Ser His Pro Ala Pro Glu Ala Cys Phe Gln
545                 550                 555                 560

gtg gtg aac tct gcg gga gat gct cat gga aac tgc ggc cag gac agc   1728
Val Val Asn Ser Ala Gly Asp Ala His Gly Asn Cys Gly Gln Asp Ser
                565                 570                 575

gag ggc cac ttc ctg ccc tgt gca ggg agg gat gcc ctg tgt ggg aag   1776
Glu Gly His Phe Leu Pro Cys Ala Gly Arg Asp Ala Leu Cys Gly Lys
            580                 585                 590

ctg cag tgc cag ggt gga aag ccc agc ctg ctc gca ccg cac atg gtg   1824
Leu Gln Cys Gln Gly Gly Lys Pro Ser Leu Leu Ala Pro His Met Val
        595                 600                 605

cca gtg gac tct acc gtt cac cta gat ggc cag gaa gtg act tgt cgg   1872
Pro Val Asp Ser Thr Val His Leu Asp Gly Gln Glu Val Thr Cys Arg
    610                 615                 620

gga gcc ttg gca ctc ccc agt gcc cag ctg gac ctg ctt ggc ctg ggc   1920
Gly Ala Leu Ala Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly
625                 630                 635                 640

ctg gta gag cca ggc acc cag tgt gga cct aga atg gtg tgc cag agc   1968
Leu Val Glu Pro Gly Thr Gln Cys Gly Pro Arg Met Val Cys Gln Ser
                645                 650                 655

agg cgc tgc agg aag aat gcc ttc cag gag ctt cag cgc tgc ctg act   2016
Arg Arg Cys Arg Lys Asn Ala Phe Gln Glu Leu Gln Arg Cys Leu Thr
            660                 665                 670

gcc tgc cac agc cac ggg gtt tgc aat agc aac cat aac tgc cac tgt   2064
Ala Cys His Ser His Gly Val Cys Asn Ser Asn His Asn Cys His Cys
        675                 680                 685

gct cca ggc tgg gct cca ccc ttc tgt gac aag cca ggc ttt ggt ggc   2112
Ala Pro Gly Trp Ala Pro Pro Phe Cys Asp Lys Pro Gly Phe Gly Gly
```

```
    690                 695                 700

agc atg gac agt ggc cct gtg cag gct gaa aac cat gac acc ttc ctg   2160
Ser Met Asp Ser Gly Pro Val Gln Ala Glu Asn His Asp Thr Phe Leu
705                 710                 715                 720

ctg gcc atg ctc ctc agc gtc ctg ctg cct ctg ctc cca ggg gcc ggc   2208
Leu Ala Met Leu Leu Ser Val Leu Leu Pro Leu Leu Pro Gly Ala Gly
                725                 730                 735

ctg gcc tgg tgt tgc tac cga ctc cca gga gcc cat ctg cag cga tgc   2256
Leu Ala Trp Cys Cys Tyr Arg Leu Pro Gly Ala His Leu Gln Arg Cys
            740                 745                 750

agc tgg ggc tgc aga agg gac cct gcg tgc agt ggc ccc aaa gat ggc   2304
Ser Trp Gly Cys Arg Arg Asp Pro Ala Cys Ser Gly Pro Lys Asp Gly
        755                 760                 765

cca cac agg gac cac ccc ctg ggc ggc gtt cac ccc atg gag ttg ggc   2352
Pro His Arg Asp His Pro Leu Gly Gly Val His Pro Met Glu Leu Gly
    770                 775                 780

ccc aca gcc act gga cag ccc tgg ccc ctg gcc cca ggg tct cct gct   2400
Pro Thr Ala Thr Gly Gln Pro Trp Pro Leu Ala Pro Gly Ser Pro Ala
785                 790                 795                 800

gac cat att cac aac att tac cct cca cca ttt ctc cca gac cct gag   2448
Asp His Ile His Asn Ile Tyr Pro Pro Pro Phe Leu Pro Asp Pro Glu
                805                 810                 815

aac tct cat gag ccc agc agc cac cct gag aag cct ctg cca gca gtc   2496
Asn Ser His Glu Pro Ser Ser His Pro Glu Lys Pro Leu Pro Ala Val
            820                 825                 830

tcg cct gac ccc caa gca gat caa gtc cag atg cca aga tcc tgc ctc   2544
Ser Pro Asp Pro Gln Ala Asp Gln Val Gln Met Pro Arg Ser Cys Leu
        835                 840                 845

tgg tga gaggtagctc ctaaaatgaa cagatttaaa gacaggtggc cactgacagc    2600
Trp

cactccagga acttgaactg caggggcaga gccagtgaat caccggacct ccagcacctg 2660
caggcagctt ggaagtttct tccccgagtg gagcttcgac ccacccactc caggaaccca 2720
gagccacact agaagttcct gagggctgga gaacactgct gggcacactc tccagctcaa 2780
taaaccatca gtcccagaag caaaggtcac acagcccctg acctcctca ccagtggagg 2840
ctgggtagtg ctggccatcc caaaagggct ctgtcctggg agtctggtgt gtctcctaca 2900
tgcaatttcc acggacccag ctctgtggag ggcatgactg ctggccagaa gctagtggtc 2960
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caaacataat tttggggacc ttccttcctg tttcttccca ccctgtcttc tcccctaggt 3080
ggttcctgag cccccacccc caatcccagt gctacacctg aggttctgga gctcagaatc 3140
tgacagcctc tccccattc tgtgtgtgtc gggggacag agggaaccat ttaagaaaag 3200
atacccaaagt agaagtcaaa agaaagacat gttggctata ggcgtggtgg ctcatgccta 3260
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cctgagttca acactgcagt gagctatggt ggcaccactg cactccagcc tgggtgacag 3500
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aaaaaaaaaa aaaaaaaaaa aa                                          3582


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<212>  PRT
<213>  Homo sapiens

<400>  4
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Met Gly Trp Arg Pro Arg Arg Ala Arg Gly Thr Pro Leu Leu Leu Leu
  1               5                  10                  15

Leu Leu Leu Leu Leu Leu Trp Pro Val Pro Gly Ala Gly Val Leu Gln
             20                  25                  30

Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp Gly
         35                  40                  45

Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro Asp
     50                  55                  60

Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu
 65                  70                  75                  80

Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His
                 85                  90                  95

Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr Asp
            100                 105                 110

His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp Val
        115                 120                 125

Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg
    130                 135                 140

Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp
145                 150                 155                 160

Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp Lys
                165                 170                 175

Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr Ser
            180                 185                 190

Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr
        195                 200                 205

Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe Leu
    210                 215                 220

Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu Val
225                 230                 235                 240

Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val Ala
                245                 250                 255

Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val Thr
            260                 265                 270

Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly
        275                 280                 285

Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly Arg
    290                 295                 300

Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met Cys
305                 310                 315                 320

Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu Pro
                325                 330                 335

Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu Gly
            340                 345                 350
```

```
Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu Ser
        355                 360                 365

Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg Val
    370                 375                 380

Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly
385                 390                 395                 400

Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val Pro
                405                 410                 415

Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys Asp
            420                 425                 430

Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His Asn
        435                 440                 445

Cys Ser Leu Arg Pro Gly Ala Gln Cys Ala His Gly Asp Cys Cys Val
    450                 455                 460

Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met Gly
465                 470                 475                 480

Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys Pro
                485                 490                 495

Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly
            500                 505                 510

Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln
        515                 520                 525

Leu Trp Gly Pro Asp Gly Gln Glu Val Thr Cys Arg Gly Ala Leu Ala
    530                 535                 540

Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu Val Glu Pro
545                 550                 555                 560

Gly Thr Gln Cys Gly Pro Arg Met Val Cys Gln Ser Arg Arg Cys Arg
                565                 570                 575

Lys Asn Ala Phe Gln Glu Leu Gln Arg Cys Leu Thr Ala Cys His Ser
            580                 585                 590

His Gly Val Cys Asn Ser Asn His Asn Cys His Cys Ala Pro Gly Trp
        595                 600                 605

Ala Pro Pro Phe Cys Asp Lys Pro Gly Phe Gly Gly Ser Met Asp Ser
    610                 615                 620

Gly Pro Val Gln Ala Glu Asn His Asp Thr Phe Leu Leu Ala Met Leu
625                 630                 635                 640

Leu Ser Val Leu Leu Pro Leu Leu Pro Gly Ala Gly Leu Ala Trp Cys
                645                 650                 655

Cys Tyr Arg Leu Pro Gly Ala His Leu Gln Arg Cys Ser Trp Gly Cys
            660                 665                 670

Arg Arg Asp Pro Ala Cys Ser Gly Pro Lys Asp Gly Pro His Arg Asp
        675                 680                 685

His Pro Leu Gly Gly Val His Pro Met Glu Leu Gly Pro Thr Ala Thr
    690                 695                 700
```

```
Gly Gln Pro Trp Pro Leu Asp Pro Glu Asn Ser His Glu Pro Ser Ser
705                 710                 715                 720

His Pro Glu Lys Pro Leu Pro Ala Val Ser Pro Asp Pro Gln Ala Asp
                725                 730                 735

Gln Val Gln Met Pro Arg Ser Cys Leu Trp
            740                 745


<210>  5
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<212>  PRT
<213>  Homo sapiens

<400>  5

Met Gly Trp Arg Pro Arg Arg Ala Arg Gly Thr Pro Leu Leu Leu Leu
  1               5                  10                  15

Leu Leu Leu Leu Leu Leu Trp Pro Val Pro Gly Ala Gly Val Leu Gln
             20                  25                  30

Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp Gly
         35                  40                  45

Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro Asp
     50                  55                  60

Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu
 65                  70                  75                  80

Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His
                85                  90                  95

Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr Asp
            100                 105                 110

His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp Val
        115                 120                 125

Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg
    130                 135                 140

Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp
145                 150                 155                 160

Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp Lys
                165                 170                 175

Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr Ser
            180                 185                 190

Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr
        195                 200                 205

Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe Leu
    210                 215                 220

Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu Val
225                 230                 235                 240

Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val Ala
                245                 250                 255
```

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Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val Thr
            260                 265                 270

Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly
        275                 280                 285

Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly Arg
    290                 295                 300

Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met Cys
305                 310                 315                 320

Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu Pro
                325                 330                 335

Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu Gly
            340                 345                 350

Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu Ser
        355                 360                 365

Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg Val
    370                 375                 380

Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly
385                 390                 395                 400

Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val Pro
                405                 410                 415

Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys Asp
            420                 425                 430

Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His Asn
        435                 440                 445

Cys Ser Leu Arg Pro Gly Ala Gln Cys Ala His Gly Asp Cys Cys Val
    450                 455                 460

Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met Gly
465                 470                 475                 480

Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys Pro
                485                 490                 495

Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly
            500                 505                 510

Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln
        515                 520                 525

Leu Trp Gly Pro Gly Ser His Pro Ala Pro Glu Ala Cys Phe Gln Val
    530                 535                 540

Val Asn Ser Ala Gly Asp Ala His Gly Asn Cys Gly Gln Asp Ser Glu
545                 550                 555                 560

Gly His Phe Leu Pro Cys Ala Gly Arg Asp Ala Leu Cys Gly Lys Leu
                565                 570                 575

Gln Cys Gln Gly Gly Lys Pro Ser Leu Leu Ala Pro His Met Val Pro
            580                 585                 590

Val Asp Ser Thr Val His Leu Asp Gly Gln Glu Val Thr Cys Arg Gly
        595                 600                 605
```

```
Ala Leu Ala Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu
    610                 615                 620

Val Glu Pro Gly Thr Gln Cys Gly Pro Arg Met Val Cys Asn Ser Asn
625                 630                 635                 640

His Asn Cys His Cys Ala Pro Gly Trp Ala Pro Pro Phe Cys Asp Lys
                645                 650                 655

Pro Gly Phe Gly Gly Ser Met Asp Ser Gly Pro Val Gln Ala Glu Asn
            660                 665                 670

His Asp Thr Phe Leu Leu Ala Met Leu Leu Ser Val Leu Leu Pro Leu
        675                 680                 685

Leu Pro Gly Ala Gly Leu Ala Trp Cys Cys Tyr Arg Leu Pro Gly Ala
    690                 695                 700

His Leu Gln Arg Cys Ser Trp Gly Cys Arg Arg Asp Pro Ala Cys Ser
705                 710                 715                 720

Gly Pro Lys Asp Gly Pro His Arg Asp His Pro Leu Gly Gly Val His
                725                 730                 735

Pro Met Glu Leu Gly Pro Thr Ala Thr Gly Gln Pro Trp Pro Leu Asp
            740                 745                 750

Pro Glu Asn Ser His Glu Pro Ser Ser His Pro Glu Lys Pro Leu Pro
        755                 760                 765

Ala Val Ser Pro Asp Pro Gln Ala Asp Gln Val Gln Met Pro Arg Ser
    770                 775                 780

Cys Leu Trp
785


<210>  6
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<212>  PRT
<213>  Homo sapiens

<400>  6

Met Gly Trp Arg Pro Arg Arg Ala Arg Gly Thr Pro Leu Leu Leu Leu
  1               5                  10                  15

Leu Leu Leu Leu Leu Leu Trp Pro Val Pro Gly Ala Gly Val Leu Gln
            20                  25                  30

Gly Glu Asp Ala Gly Gly Val Pro Leu Thr Leu Cys Ser Val Phe Thr
        35                  40                  45

Pro Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp
    50                  55                  60

Gly Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro
65                  70                  75                  80

Asp Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu
                85                  90                  95

Glu Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr
            100                 105                 110

His Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr
```

```
        115                 120                 125

Asp His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp
    130                 135                 140

Val Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser
145                 150                 155                 160

Arg Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys
                165                 170                 175

Asp Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp
            180                 185                 190

Lys Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr
        195                 200                 205

Ser Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg
    210                 215                 220

Thr Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe
225                 230                 235                 240

Leu Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu
                245                 250                 255

Val Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val
            260                 265                 270

Ala Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val
        275                 280                 285

Thr Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg
    290                 295                 300

Gly Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly
305                 310                 315                 320

Arg Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met
                325                 330                 335

Cys Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu
            340                 345                 350

Pro Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu
        355                 360                 365

Gly Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu
    370                 375                 380

Ser Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg
385                 390                 395                 400

Val Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys
                405                 410                 415

Gly Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val
            420                 425                 430

Pro Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys
        435                 440                 445

Asp Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His
    450                 455                 460

Asn Cys Ser Leu Arg Pro Gly Ala Gln Cys Ala His Gly Asp Cys Cys
```

```
465                 470                 475                 480

Val Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met
                485                 490                 495

Gly Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys
            500                 505                 510

Pro Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser
        515                 520                 525

Gly Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln
    530                 535                 540

Gln Leu Trp Gly Pro Gly Ser His Pro Ala Pro Glu Ala Cys Phe Gln
545                 550                 555                 560

Val Val Asn Ser Ala Gly Asp Ala His Gly Asn Cys Gly Gln Asp Ser
                565                 570                 575

Glu Gly His Phe Leu Pro Cys Ala Gly Arg Asp Ala Leu Cys Gly Lys
            580                 585                 590

Leu Gln Cys Gln Gly Gly Lys Pro Ser Leu Leu Ala Pro His Met Val
        595                 600                 605

Pro Val Asp Ser Thr Val His Leu Asp Gly Gln Glu Val Thr Cys Arg
    610                 615                 620

Gly Ala Leu Ala Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly
625                 630                 635                 640

Leu Val Glu Pro Gly Thr Gln Cys Gly Pro Arg Met Val Cys Gln Ser
                645                 650                 655

Arg Arg Cys Arg Lys Asn Ala Phe Gln Glu Leu Gln Arg Cys Leu Thr
            660                 665                 670

Ala Cys His Ser His Gly Val Cys Asn Ser Asn His Asn Cys His Cys
        675                 680                 685

Ala Pro Gly Trp Ala Pro Pro Phe Cys Asp Lys Pro Gly Phe Gly Gly
    690                 695                 700

Ser Met Asp Ser Gly Pro Val Gln Ala Glu Asn His Asp Thr Phe Leu
705                 710                 715                 720

Leu Ala Met Leu Leu Ser Val Leu Leu Pro Leu Leu Pro Gly Ala Gly
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Asp

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Cys Arg Gln Ala Met Gly Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly
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Thr Ser Ser His Cys Pro Pro
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